

REMARKS

Receipt of the Office Action of December 3, 2009 is gratefully acknowledged.

Claims 13 - 24 have been examined. These have been rejected as follows:

(1) claims 13 - 19, 23 and 24 under 35 USC 102(b) by Gaiser; (2) claims 23 and 24 under 35 USC 102(b) by EP '488; (3) claims 13 - 16 and 21 - 24 under 35 USC 102(b) by WO '004; (4) claim 23 under 35 USC 102(e) by Hagg; and (5) claims 1 - 24 under 35 USC 102(b) by Farmer et al.

Claims 14, 17, 18, 23 and 24 have been cancelled thereby rendering rejections (2) and (4) moot and part of rejections (1), (3) and (5) also moot. There remains the rejections of claims 13 - 19 in (1), claims 13 - 16, 21 and 22 in (3) and claims 13, 14 - 16 and 19 - 22 in (5) for consideration.

Of the remaining claims, claim 13 is in independent form, and this claim has been amended to include the subject matter of claims 17 and 18. As such, claim 13 as amended and claims 15, 16 and 19 - 22 are believed to patentably distinguish over the art of record, and in particular Gaiser, Wo '004 and Farmer et al.

Gaiser discloses a method and an apparatus for non-contact determination of overfilling of a receptacle filled with a filling product. According to the method, an envelope curve from echo signals is generated and reflected on the filling product surface. An amplitude of the echo signals is mathematically processed in a predetermined short range of the envelope curve, and is compared to a predetermined reference value. When the amplitude exceeds the predetermined reference value a signal representative of overfilling of the receptacle is outputted. Further, described are an evaluation arrangement for realizing the method and a filling level measuring device equipped with such an evaluation arrangement. Gaiser does not disclose the method

of claim 13 where there are two evaluations used.

Farmer et al discloses a level sensing system comprising: ... a content level detector, ... for detecting the level of the contents of the receptacle; a rim detector, ... for determining the location of the rim of the receptacle; and a level comparator, responsive to said rim detector and said content level detector, for comparing the contents level with the rim location for indicating when the contents level is within a predetermined distance of the rim. The system disclosed is different from that claimed in claim 13 .

WO '004 discloses a system utilizing two different measuring signals which function in parallel utilizing different measuring zones. Here too, the system is clearly seen to be different from that claimed in claim 13.

The present invention as now defined in the amended claims differs according to the cited references in that it derives an echo function from the echo signals (E) which represents an amplitude of the echo signals (E) as a function of travel-time (t) for determining the exceeding or falling beneath of the predetermined fill levels (LMIN, LMAX); and determining a integral for the area under the echo function in a region (I, II) of particular travel-time (tMN, tMAX) to be expected for the predetermined fill level (LMN, LMAX) wherein: the upper predetermined fill level (LMAX) is an upper limit value for the fill level and the lower predetermined fill level (LMIN) is an lower limit value for the fill level.

As defined, the amended claims are believed to patentably distinguish over the art of record, and accordingly should be allowed.

In view of the foregoing, reconsideration and reexamination are respectfully requested and claims 13, 15, 16 and 19 - 22 found allowable.

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Respectfully submitted,
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